INDEX TO VOLUME 69 (PART B) 1991

AUTHORS AND PAPERS

A

Abbott, D.J. (see Coker, D.T.) 160
Ahmad, S. (see Javed, K.H.) 107
Aldersey, M.L., Lees, F.P. and Rushton, A.G., Knowledge elicitation and representation for diagnostic tasks in the process industries: forms of representation and translation between these forms 187
Al-Duri, B., Magdy, Y., Saad, R. and McKay, G., Modelling of multicomponent equilibrium for the adsorption of basic dyes onto bagasse pith 246
Apostolakis, G. (see Chhibber, S.) 67
Azzopardi, B.J., Teixeira, S.F.C.F., Govan, A.H. and Bott, T.R., An improved model for pressure drop in venturi scrubbers 237

B

Bagster, D.F. and Pitblado, R.M., The estimation of domino incident frequencies—an approach 195
Barton, R.G., Seeker, W.R. and Bostian, H.E., The behaviour of metals in municipal sludge incinerators 29
Bennett, C.J., Kolaczkowski, S.T. and Thomas, W.J., Determination of heterogeneous reaction kinetics and reaction rates under mass transfer controlled conditions for a monolith reactor 209
Bostian, H.E. (see Barton, R.G.) 29
Bostian, H.E. (see Parrish, C.R.) 20
Bott, T.R. (see Azzopardi, B.J.) 237

C

Cassidy, L. (see Coker, D.T.) 160
Chhibber, S., Apostolakis, G. and Okrent, D., A probabilistic framework for the analysis of model uncertainty 67
Clerehugh, G., British gas research in the field of safety and the environment 123
Clift, R. (see Coury, J.R.) 97
Coker, D.T., Abbott, D.J., Cassidy, L., Simms, M.C. and Thomas, F.C., A comparison of the effectiveness of two systems for controlling gasoline vapour exposure and emissions during car refuelling 160
Cooke, M.J. (see Ford, N.W.J.) 167
Cooper, J.R. (see Hebbs, A.) 221
Coury, J.R., Raper, J.A., Guang, D. and Clift, R., Measurement of electrostatic charge on gas-borne particles and the effect of charges on fabric filtration 97
Crumpler, E.P. (see Parrish, C.R.) 20

E

Evans, A.A., Deflagrations in spherical vessels: a theoretical analysis of the pressure-size relationship 90
Evison, L.M. (see Morgan, J.W.) 231

F

Ford, N.W.J., Cooke, M.J. and Gibbs, B.M., Control of SO_2 emissions from stoker-fired coal combustion by on-grate addition of limestone 167
Forster, C.F. (see Morgan, J.W.) 231
Forster, C.F. (see Ugurlu, A.) 37

G

Gibbs, B.M. (see Ford, N.W.J.) 167
Govan, A.H. (see Azzopardi, B.J.) 237
Guang, D. (see Coury, J.R.) 97

H

Halden, K., Methanotrophic bacteria for the *in situ* renovation of polluted aquifers 173
Hallam, S. (see Rogers, R.L.) 149
Handley, D. (see Katima, J.H.Y.) 153
Hebbs, A. and Cooper, J.R., Treatment of FGD wastewater 221
Hjertager, B.H., Explosions in offshore modules 59

J

Javed, K.H. and Ahmad, S., Computer simulation of full scale primary settling tanks 107
Johnson, D.M., Sutton, P. and Wickens, M.J., Scaled experiments to study vapour cloud explosions 76
Jones, P.G., Computers in chemical plant—a need for safety awareness 135

K

Katima, J.H.Y. and Handley, D., Modelling of nitrogen oxides absorption into sodium hydroxide solution in a packed column 153
Keey, R.B., A rapid hazard-assessment method for smaller-scale industries 85
Kelsall, G.H. and Robbins, D.J., Sulphur dioxide removal from flue gases by electrogenerated aqueous reductants. I. Outline of the components of the proposed process 43
Kolaczkowski, S.T. (see Bennett, C.J.) 209

L

Laser, M., Modifications of radioactive waste management as a consequence of quality assurance and quality control 112
Lees, F.P. (see Aldersey, M.L.) 187

M

McKay, G. (see Al-Duri, B.) 246
McQuaid, J., Know your enemy: The science of accident prevention 9
Magdy, Y. (see Al-Duri, B.) 246
Morgan, J.W., Evison, L.M. and Forster, C.F., An examination into the composition of extracellular polymers extracted from anaerobic sludges 231

O

Okrent, D. (see Chhibber, S.) 67

P

Palazzolo, M.A. (see Parrish, C.R.) 20
Parrish, C.R., Palazzolo, M.A., Vancil, M.A., Bostian, H.E. and Crumpler, E.P., Emissions of metals and organics from municipal wastewater sludge incinerators 20
Pitblado, R.M. 195

R

Raper, J.A. (see Coury, J.R.) 97
Robbins, D.J. (see Kelsall, G.H.) 43
Rogers, R.L. and Hallam, S., A chemical approach to inherent safety 149
Rushton, A.G., The selection of trip system configuration including common cause failure among system channels 200
Rushton, A.G. (see Aldersey, M.L.) 187

S

Saad, R. (see Al-Duri, B.) 246
Seeker, W.R. (see Barton, R.G.) 29
Simms, M.C. (see Coker, D.T.) 160
Sutton, P. (see Johnson, D.M.) 76
Sylvester-Evans, R., 'Background'—to the Piper Alpha tragedy 3

T

Teixeira, S.F.C.F. (see Azzopardi, B.J.) 237
The, H.G. (see Van den Berg, A.C.) 139
Thomas, F.C. (see Coker, D.T.) 160
Thomas, W.J. (see Bennett, C.J.) 209

INDEX TO VOLUME 69 (PART B) 1991

AUTHORS AND PAPERS

A

Abbott, D.J. (see Coker, D.T.) 160
Ahmad, S. (see Javed, K.H.) 107
Aldersey, M.L., Lees, F.P. and Rushton, A.G., Knowledge elicitation and representation for diagnostic tasks in the process industries: forms of representation and translation between these forms 187
Al-Duri, B., Magdy, Y., Saad, R. and McKay, G., Modelling of multicomponent equilibrium for the adsorption of basic dyes onto bagasse pith 246
Apostolakis, G. (see Chhibber, S.) 67
Azzopardi, B.J., Teixeira, S.F.C.F., Govan, A.H. and Bott, T.R., An improved model for pressure drop in venturi scrubbers 237

B

Bagster, D.F. and Pitblado, R.M., The estimation of domino incident frequencies—an approach 195
Barton, R.G., Seeker, W.R. and Bostian, H.E., The behaviour of metals in municipal sludge incinerators 29
Bennett, C.J., Kolaczkowski, S.T. and Thomas, W.J., Determination of heterogeneous reaction kinetics and reaction rates under mass transfer controlled conditions for a monolith reactor 209
Bostian, H.E. (see Barton, R.G.) 29
Bostian, H.E. (see Parrish, C.R.) 20
Bott, T.R. (see Azzopardi, B.J.) 237

C

Cassidy, L. (see Coker, D.T.) 160
Chhibber, S., Apostolakis, G. and Okrent, D., A probabilistic framework for the analysis of model uncertainty 67
Clerehugh, G., British gas research in the field of safety and the environment 123
Clift, R. (see Coury, J.R.) 97
Coker, D.T., Abbott, D.J., Cassidy, L., Simms, M.C. and Thomas, F.C., A comparison of the effectiveness of two systems for controlling gasoline vapour exposure and emissions during car refuelling 160
Cooke, M.J. (see Ford, N.W.J.) 167
Cooper, J.R. (see Hebbs, A.) 221
Coury, J.R., Raper, J.A., Guang, D. and Clift, R., Measurement of electrostatic charge on gas-borne particles and the effect of charges on fabric filtration 97
Crumpler, E.P. (see Parrish, C.R.) 20

E

Evans, A.A., Deflagrations in spherical vessels: a theoretical analysis of the pressure-size relationship 90
Evison, L.M. (see Morgan, J.W.) 231

F

Ford, N.W.J., Cooke, M.J. and Gibbs, B.M., Control of SO_2 emissions from stoker-fired coal combustion by on-grate addition of limestone 167
Forster, C.F. (see Morgan, J.W.) 231
Forster, C.F. (see Ugurlu, A.) 37

G

Gibbs, B.M. (see Ford, N.W.J.) 167
Govan, A.H. (see Azzopardi, B.J.) 237
Guang, D. (see Coury, J.R.) 97

H

Halden, K., Methanotrophic bacteria for the *in situ* renovation of polluted aquifers 173
Hallam, S. (see Rogers, R.L.) 149
Handley, D. (see Katima, J.H.Y.) 153
Hebbs, A. and Cooper, J.R., Treatment of FGD wastewater 221
Hjertager, B.H., Explosions in offshore modules 59

J

Javed, K.H. and Ahmad, S., Computer simulation of full scale primary settling tanks 107
Johnson, D.M., Sutton, P. and Wickens, M.J., Scaled experiments to study vapour cloud explosions 76
Jones, P.G., Computers in chemical plant—a need for safety awareness 135

K

Katima, J.H.Y. and Handley, D., Modelling of nitrogen oxides absorption into sodium hydroxide solution in a packed column 153
Keey, R.B., A rapid hazard-assessment method for smaller-scale industries 85
Kelsall, G.H. and Robbins, D.J., Sulphur dioxide removal from flue gases by electrogenerated aqueous reductants. I. Outline of the components of the proposed process 43
Kolaczkowski, S.T. (see Bennett, C.J.) 209

L

Laser, M., Modifications of radioactive waste management as a consequence of quality assurance and quality control 112
Lees, F.P. (see Aldersey, M.L.) 187

M

McKay, G. (see Al-Duri, B.) 246
McQuaid, J., Know your enemy: The science of accident prevention 9
Magdy, Y. (see Al-Duri, B.) 246
Morgan, J.W., Evison, L.M. and Forster, C.F., An examination into the composition of extracellular polymers extracted from anaerobic sludges 231

O

Okrent, D. (see Chhibber, S.) 67

P

Palazzolo, M.A. (see Parrish, C.R.) 20
Parrish, C.R., Palazzolo, M.A., Vancil, M.A., Bostian, H.E. and Crumpler, E.P., Emissions of metals and organics from municipal wastewater sludge incinerators 20
Pitblado, R.M. 195

R

Raper, J.A. (see Coury, J.R.) 97
Robbins, D.J. (see Kelsall, G.H.) 43
Rogers, R.L. and Hallam, S., A chemical approach to inherent safety 149
Rushton, A.G., The selection of trip system configuration including common cause failure among system channels 200
Rushton, A.G. (see Aldersey, M.L.) 187

S

Saad, R. (see Al-Duri, B.) 246
Seeker, W.R. (see Barton, R.G.) 29
Simms, M.C. (see Coker, D.T.) 160
Sutton, P. (see Johnson, D.M.) 76
Sylvester-Evans, R., 'Background'—to the Piper Alpha tragedy 3

T

Teixeira, S.F.C.F. (see Azzopardi, B.J.) 237
The, H.G. (see Van den Berg, A.C.) 139
Thomas, F.C. (see Coker, D.T.) 160
Thomas, W.J. (see Bennett, C.J.) 209

U
Ugurlu, A. and Forster, C.F., Thermophilic anaerobic treatment of ice cream wastes: A comparison of porous and non-porous support media 37

V
Vancil, M.A. (see Parrish, C.R.) 20
Van den Berg, A.C., van Wingerden, C.J.M. and The, H.G., Vapour cloud explosions: experimental investigation of key parameters and blast modelling 139
van Wingerden, C.J.M. (see Van den Berg, A.C.) 139

W
Wickens, M.J. (see Johnson, D.M.) 76

TITLES AND KEYWORDS FOR PAPERS

A
absorber wastes 221
absorption 153
accidents 3, 9
adsorption 246
aerosols 97
algorithm 195
alkaline 153
anaerobic sludge 231
anaerobic treatment 37
aquifer 173

B
'Background'—to the Piper Alpha tragedy, Sylvester-Evans, R. 3
Bayesian methods 67
Behaviour of metals in municipal sludge incinerators, The, Barton, R.G., Seeker, W.R. and Bostian, H.E. 29
benzene exposure 160
biodegradation 173
blast loading 139
blast modelling 139
British Gas research in the field of safety and the environment, Clerehugh, G. 123

C
carbon canister 160
catalyst monolith 209
catalytic combustion 209
catalytic converter 209
Chemical approach to inherent safety, A, Rogers, R.L. and Hallam, S. 149
chemical reaction hazards 149
chlorocarbons 173
combustion 59, 139
Comparison of the effectiveness of two systems for controlling gasoline vapour exposure and emissions during car refuelling, A, Coker, D.T., Abbott, D.J., Cassidy, L., Simms, M.C. and Thomas, F.C. 160
computer control (safety) 135
Computers in chemical plant, Jones, P.G. 135
Computer simulation of full scale primary settling tanks, Javed, K.H. and Ahmad, S. 107
Control of SO_2 emissions from stoker-fired coal combustion by on-grate addition of limestone, Ford, N.W.J., Cooke, M.J. and Gibbs, B.M. 167
correlative 246
cube-root 90

D
deflagration 59, 90
Deflagrations in spherical vessels: a theoretical analysis of the pressure- time relationship, Evans, A.A. 90
Determination of heterogeneous reaction kinetics and reaction rates under mass transfer controlled conditions for a monolith reactor, Bennett, C.J., Kolaczkowski, S.T. and Thomas, W.J. 209
disasters 9
discharge consents 221
domino 195
dynamic simulation 107

E
electrochemistry 43
electrostatics 97
emission control 237
emissions 20, 29
Emissions of metals and organics from municipal wastewater sludge incinerators, Parrish, C.R., Palazzolo, M.A., Vancil, M.A., Bostian, H.E. and Crumpler, E.P. 20
environment 123
equilibrium 246
escalation 3
Estimation of domino incident frequencies—an approach, The, Bagster, D.F. and Pitblado, R.M. 195
event trees 187
Examination into the composition of extracellular polymers extracted from anaerobic sludges, An, Morgan, J.W., Evison, L.M. and Forster, C.F. 231
experiments 76
expert opinion 67
explosions 3, 59, 76, 139
Explosions in offshore modules, Hjertager, B.H. 59
extracellular polymers 231

F
fault propagation 187
fault trees 187
fire 3
firedamp 9
fires 9
flue gas desulphurisation 221
frequency 195

G
gas 90
gas filtration 97
gasoline vapour control 160
groundwater 173

H
hazard analysis 85
hazard assessment 85
hazards 9, 123, 195
heat transfer 209

I
Improved model for pressure drop in venturi scrubbers, An, Azzopardi, B.J., Teixeira, S.F.C.F., Govan, A.H. and Bott, T.R. 237
incident frequency 85
incineration 20
inherent safety 149

K
knock-on 195
Knowledge elicitation and representation for diagnostic tasks in the process industries: forms of representation and translation between these forms, Aldersey, M.L., Lees, F.P. and Rushton, A.G. 187
knowledge representation 187
Know your enemy: The science of accident prevention, McQuaid, J. 9

L
limestone addition 167
limestone gypsum 221

M
mass transfer 209
Measurement of electrostatic charge on gas-borne particles and the effect of charges on fabric filtration, Coury, J.R., Raper, J.A., Guang, D. and Clift, R. 97
metals 20
Methanotrophic bacteria for the *in situ* renovation of polluted aquifers, Halden, K. 173
modelling 153, 237, 246

Modelling of multicomponent equilibrium for the adsorption of basic dyes onto bagasse pith, Al-Duri, B., Magdy, Y., Saad, R. and McKay, G. 246
Modelling of nitrogen oxides absorption into sodium hydroxide solution in a packed column, Katima, J.H.Y. and Handley, D. 153
model uncertainty 67
Modifications of radioactive waste management as a consequence of quality assurance and quality control, Laser, M. 112
multisolute 246
municipal sludge incinerators 29

N
natural gas 76, 123
NO_x gas 153
numerical code 139

O
obstacles 76
offshore 59
offshore safety 3
organics 20

P
packed columns 153
particles 97
particulates 20
platforms 59
pollution 123, 173
polymer composition 231
predictive 246
prescrubber wastes 221
pressure-time 90
primary settling 107
Probabilistic framework for the analysis of model uncertainty, A, Chhibber, S., Apostolakis, G. and Okrent, D. 67

Q
qualitative modelling 187
quality assurance 112
quality control 112

R
radioactive 112
Rapid hazard-assessment method for smaller-scale industries, A, Keey, R.B. 85
reductants — Ti^{3+}, V^{2+}, Cr^{2+} 43
reduction 43
research and development 123
risk criteria 85

S
safety 9, 123
safety (computer control) 135
Scaled experiments to study vapour cloud explosions, Johnson, D.M., Sutton, P. and Wickens, M.J. 76
scaling 76
scrubbing 237
Selection of trip system configuration including common cause failure among system channels, The, Rushton, A.G. 200
severity 85
sewage sludge 29
sludge 20
sludge incinerators 29
smaller-scale industries 85
SO_2 control 167
sphere 90
stage II control 160
stoker firing 167
sulphur 43
Sulphur dioxide removal from flue gases by electrogenerated aqueous reductants. I. Outline of the components of the proposed process, Kelsall, G.H. and Robbins, D.J. 43
support media 37
suspended solids 107

T
test 90
Thermophilic anaerobic treatment of ice cream wastes: A comparison of porous and non-porous support media, Ugurlu, A. and Forster, C.F. 37
thermophilic digestion 37
toxic metals 29
Treatment of FGD wastewater, Hebbs, A. and Cooper, J.R. 221
turbulence 59
two-phase (flow) 237

V
Vapour cloud explosions: experimental investigation of key parameters and blast modelling, Van den Berg, A.C., van Wingerden, C.J.M. and The, H.G. 139
VCE 76
venturi 237

W
waste management 112
wastewater 107
wastewater treatment 221

REGULAR FEATURES

List of Referees 261
Environmental News 53
Recent Safety and Environmental Legislation 51, 116, 182, 257

BOOKS REVIEWED

Air pollution control: traditional and hazardous pollutants. H. E. Hesketh (Technomic Publishing AG). Review by R. F. Griffiths. 181
Bretherick's handbook of reactive chemical hazards. L. Bretherick (Butterworth-Heinemann). Reviewed by J. H. Rees. 115
Expert systems for environment applications (ACS Symposium Series No. 431). J. M. Hushton (ed) (American Chemical Society). Reviewed by B. Knight. 50
Innovative hazardous waste treatment technology series: Volume 3—Biological processes. Harry M. Freeman and P. R. Sferra (Technomic Publishing). Reviewed by A. L. Downing. 256
Laboratory health and safety handbook—a guide for the preparation of a chemical hygiene plan. R. Scott Stricoff and Douglas B. Walters (John Wiley and Sons). Reviewed by J. McAughey. 180
Solvent waste reduction. USEPA and ICF Consulting Associates Inc (Noyes Data Corporation). Reviewed by M. A. Hughes 180
Tracking toxic substances at industrial facilities—engineering mass balance versus materials accounting. Committee to evaluate mass balance information for facilities handling toxic substances, Board on environmental studies and toxicology, Commission on geosciences, environment and resources (National Academy Press). Reviewed by H. Wolfson. 255